

Libman, Alexander; Obydenkova, Anastassia

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Communism or communists? Soviet legacies and corruption in transition economies

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Communism or Communists? Soviet Legacies and Corruption in Transition Economies

by

Alexander Libman and Anastassia Obydenkova

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Sonnemannstr. 9–11 60314 Frankfurt am Main, Germany
Phone: +49 (0) 69 154 008 0 Fax: +49 (0) 69 154 008 728
Internet: www.frankfurt-school.de

Abstract

This working paper contains supplementary material to the paper *Communism or Communists? Soviet Legacies and Corruption in Transition Economies*. The supplementary material covers the description of calculation and sources of key variables, as well as reports summary statistics and provides estimation tables and outcomes for robustness checks, used to validate the results described in the published paper.

Key words: corruption, transition economies, path dependence, Soviet legacies

JEL classification: D73, K42, P26

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Contact:

Alexander Libman
Frankfurt School of Finance & Management
Sonnemannstrasse 9-11
60314 Frankfurt am Main
Germany
tel. +49 69 154008 793
fax +49 69 154008 4793
e-mail: alibman@yandex.ru

Anastassia Obydenkova
Universitat Pompeu Fabra (Barcelona)

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1. Data

Details on key variables

The main explanatory variable – the **share of CPSU members in the regional population in 1976** – was obtained in the following way. Unfortunately, the Soviet statistics did not publish any information in this respect; however, there is a way to obtain a rather precise estimate of how widespread the CPSU membership was in different regions. The CPSU was officially governed by the party congresses, which included delegations from all regional party organizations. The number of delegates from each organization was proportional to the party membership in the region: one delegate was sent from 3,000 Communists (for the congress we look at). The full lists of congress delegates are available. Hence, we count the size of the delegation from each party organization, multiply it by 3,000 and divide by the regional population. We use the XXV party congress of 1976: the choice of this particular congress is because it convened precisely in the middle of the Brezhnev Stagnation era, long before the start of Gorbachev's reforms and long after turbulences of the period of Stalin and Khrushchev.

The main dependent variable of this paper – the **index of real corruption**, was published by the Fond Obshestvennoe Mnenie (FOM) based on the survey implemented in 2010. The survey took place in October 2010 in 70 regions of the Russian Federation. The overall sample consists of 17,500 respondents with 250 respondents per region. The set of respondents was obtained through three-stage stratified sampling (sub-regional districts – cities, towns and villages – households) and thus was designed as representative within each region. The final index was computed as a weighted average of responses to four key questions:

- Share of respondents, who have at least once encountered a situation, where they were expected or requested to pay a bribe by public officials, in the total number of respondents, who had to interact with public officials
- Share of respondents, who have been requested to pay a bribe during their latest interaction with public officials
- Share of respondents, who have paid a bribe last time they were requested to pay a bribe by public officials
- Sum of bribes paid by the respondents during the last year (computed as the product of average number of bribes paid and the average bribe paid reported by the respondents), computed as share of the average monthly income in the region

The resulting index was normalized to vary between 0 and 1, with 1 being the highest level of corruption.

Thus, the advantage of the dataset is its thorough coverage of a broad set of Russian regions, making it possible to obtain an estimation of bureaucratic corruption for most of them (specifically, for the street-level bureaucratic corruption). The limits of the dataset are associated with the fairness of responses (respondents may be unwilling to report their corruption experience, although the widespread corruption in Russia, which is more socially acceptable than in developed countries, could make this problem less pronounced); we partly resolve this problem by using other types of proxies as described below.

In addition, the FOM computed a further **index of perceived corruption**: the average assessment of corruption of respondents in a particular region for 16 institutions and types of interaction with government: universities, traffic control, military draft, work, pre-school facilities, courts, schools, public medical assistance, acquisition of land, police, official documents (passports etc.), housing, registration of real estate transactions, communal services, social benefits and pensions. Unlike the previous index, this index does not ask the respondents to report their own corruption experience and rather to provide information on their expectations regarding the corruption level in particular situations. The index, again, was normalized to vary between 0 and 1 with 1 being the lowest expectation of corruption, we have re-calculated it as 1 minus original index to make it compatible with other indices.

In order to check the persistence of the impact of CPSU membership over time, we also use several other datasets. In October 2002 Transparency International (TI) jointly with INDEM implemented a survey of corruption in 40 regions of Russia. The survey covered 5,666 individuals and 1,838 small and medium entrepreneurs. As an outcome, TI published two indicators: index of real corruption and index of perceived corruption. **Index of real corruption** was obtained based on two indicators: (a) the size of bribes paid by households in the region relative to the regional GDP (this indicator was obtained based on the following characteristics: share of respondents, who reported to have paid a bribe; share of respondents, who reported that they paid a bribe last time they were requested one; average number of bribes; and average value of bribes) and (b) the size of bribes paid by businesses in the region relative to the regional GDP (this indicator was obtained based on responses to the following questions: average value of a bribe paid; and average value of a bribe). The **index of perceived corruption** was obtained based on responses for following questions: (1) trust into government in the region; (2) overall assessment of the level of bribery in different public institutions; (3) assessment of business corruption by businessmen and (4) assessment of corruption by households. Both indices are normalized to vary between 0 and 1 with 1 being the highest expectation of corruption.

Second, in May 2011 FOM performed a further survey on corruption covering 72 regions. The question asked was whether respondents have been recently requested to pay a bribe from public officials. We use the share of respondents, who gave a positive response to this question, as a further corruption measure, which we refer to as **index of real corruption 2011**.

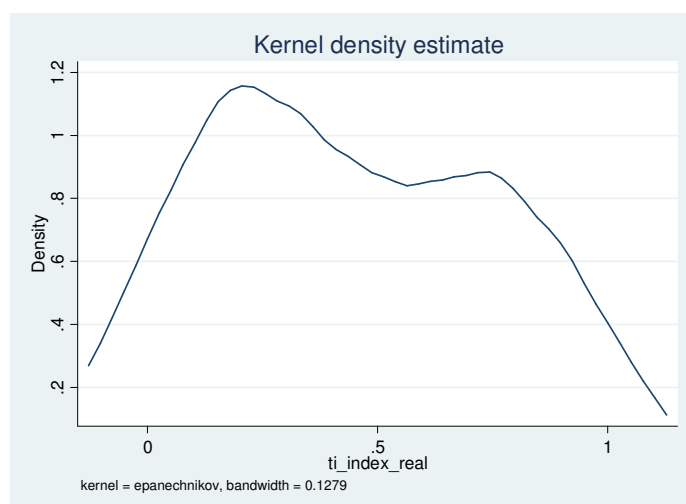
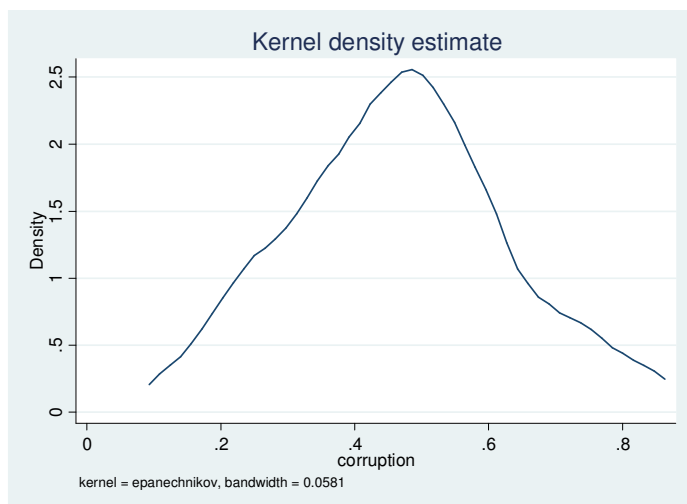
Third, in 2004 the Carnegie Center in Moscow published an index of corruption in all Russian regions. The index was computed for 2000-2004 and was based on expert opinion surveys. Unlike other indices, it focuses on political corruption and not on corruption in the bureaucracy; furthermore, it applies a rather restrictive definition of corruption, associated with bribery in political process. The original index was computed on a 5-point scale, with 5 being the lowest corruption level; in this paper we re-calculated it as 6 minus original index, such that higher values of the index correspond to the higher level of corruption. The index is referred to as **expert index of corruption 2000-2004**.

Below we report the correlation across all measures and the kernel density estimators for all key dependent variables. One can see that all three measures of real corruption (2002, 2010

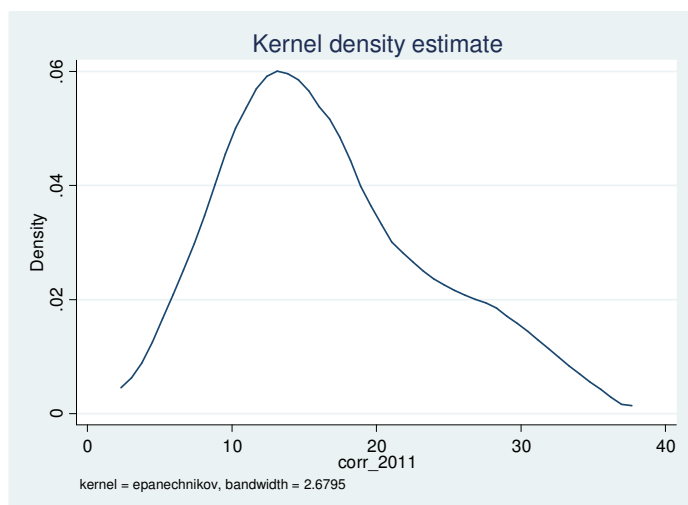
and 2011) are positively and significantly correlated. The TI corruption perception index and the expert index of corruption are also positively correlated with all three measures of real corruption, but not with perceived corruption 2010. The only exception is the FOM corruption perception index of 2010, which is not correlated with any other corruption indicator.

	Real corruption, 2010	Real corruption, 2002	Real corruption, 2011	Perceived corruption, 2010	Perceived corruption, 2002	Expert index of corruption 2000-2004
Real corruption, 2010	1					
Real corruption, 2002	0.5090*** (0.0008)	1				
Real corruption, 2011	0.6978*** (0.0000)	0.5222*** (0.0005)	1			
Perceived corruption, 2010	-0.1451 (0.2342)	0.2108 (0.1917)	-0.1071 (0.3809)	1		
Perceived corruption, 2002	0.3790** (0.0159)	0.3330** (0.0358)	0.4054*** (0.0095)	-0.0189 (0.9077)	1	
Expert index of corruption, 2000-2004	0.4032*** (0.0006)	0.3301** (0.0375)	0.4756*** (0.0000)	-0.1146 (0.3482)	0.0003 (0.9983)	1

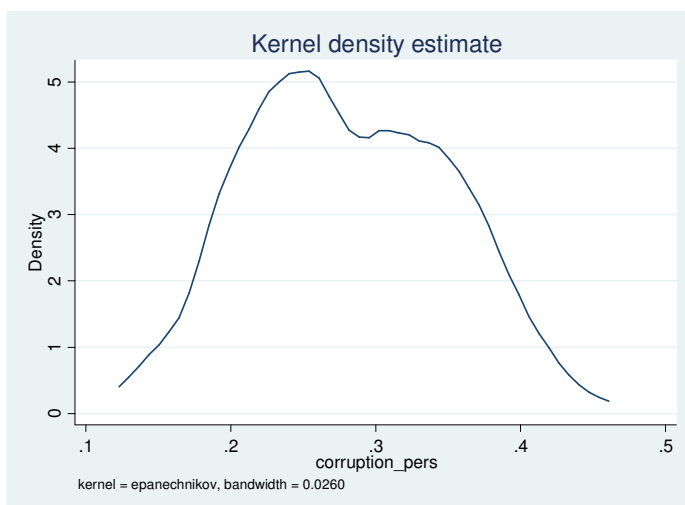
Note: *** 1% significance, ** 5% significance, p-values in brackets



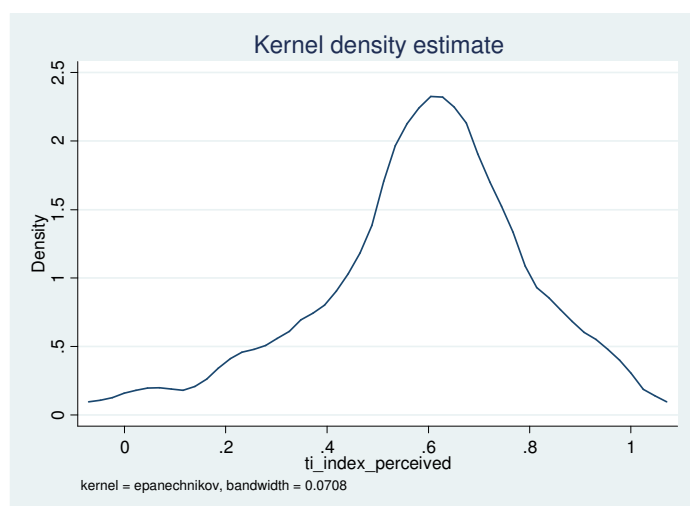
Real corruption, 2010



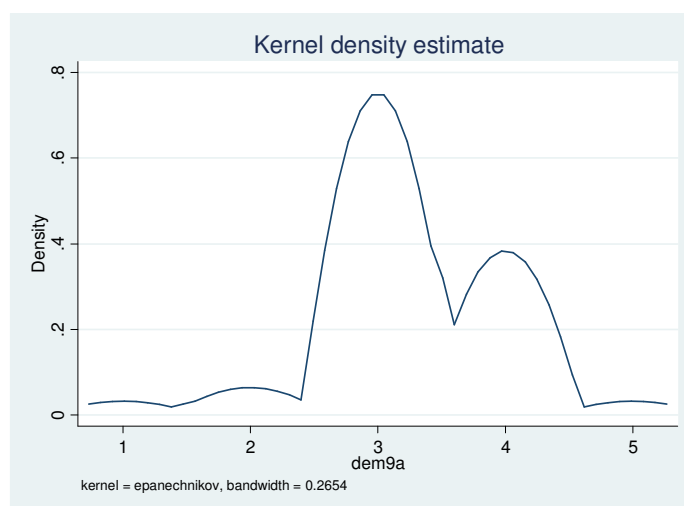
Real corruption, 2002



Real corruption, 2011



Perceived corruption, 2010



Summary statistics

Variable	No. obs.	Mean	St.dev.	Min	Max
Bureaucracy, 2000-2004	79	10.416	5.196	2.882	39.772
Bureaucracy, 2000-2009	79	11.398	5.000	5.339	43.656
Bureaucracy, 2001	79	9.323	4.031	4.027	35.887
Bureaucracy, 2002	79	10.306	4.458	4.751	39.889
Bureaucracy, 2009	79	14.275	6.732	7.446	57.760
Bureaucracy, 2010	79	14.180	6.728	6.842	56.451
Criminal convictions, 1985	79	12008.140	7947.054	2516.000	33342.000
Distance from Moscow	79	2.367	2.748	0.000	11.876
Doctors per capita, 1976	73	32.919	10.752	20.900	88.300
Dummy Red Belt	79	0.139	0.348	0.000	1.000
Dummy republic	79	0.253	0.438	0.000	1.000
Education, 2002 census	79	0.172	0.036	0.112	0.360
Education, 2010 census	79	0.252	0.048	0.182	0.500
Expert index of corruption, 2000-2004	79	3.253	0.707	1.000	5.000
Fiscal transfers, 2000-2004	79	0.274	0.185	0.011	0.791
Fiscal transfers, 2000-2009	79	0.291	0.164	0.045	0.815
Fiscal transfers, 2001	79	0.298	0.202	0.015	0.884
Fiscal transfers, 2002	79	0.314	0.207	0.019	0.897
Fiscal transfers, 2009	79	0.346	0.209	0.041	1.355
Housing construction per capita, 1976	73	0.435	0.079	0.286	0.720
Income per capita, 1985	79	2.155	17.850	0.081	158.800
Income per capita, 2000-2004	79	2.473	1.354	0.717	9.640
Income per capita, 2000-2009	79	3.542	1.645	1.180	12.131
Income per capita, 2001	79	2.578	1.482	0.909	10.282
Income per capita, 2002	79	3.393	1.877	1.171	12.461
Income per capita, 2009	79	14.530	5.855	6.409	43.099
Income per capita, 2010	79	16.320	6.028	7.540	43.876
Industrial production per capita, 1985	79	5.971	5.696	0.200	30.000
Infant mortality, 1970	79	23.886	4.929	14.800	42.100
Natural population growth, 1970	79	7.092	4.444	-1.600	22.100
Number of companies, 2000-2004	79	48.919	107.304	1.675	923.574
Number of companies, 2000-2009	79	54.315	119.612	1.646	1015.066
Number of companies, 2001	79	45.417	96.829	1.607	834.288
Number of companies, 2002	79	48.600	105.775	1.603	909.522
Number of companies, 2009	79	61.994	134.367	1.476	1106.897
Number of companies, 2010	79	60.927	137.000	1.356	1161.505
Number of presidential visits to the region, 2008-2011	77	1.896	2.315	0.000	18.000
Oil and gas to GDP, 2000-2004	79	0.014	0.042	0.000	0.315
Oil and gas to GDP, 2001	79	0.015	0.045	0.000	0.337
Oil and gas to GDP, 2002	79	0.014	0.040	0.000	0.298
Perceived corruption, 2002	40	0.443	0.297	0.000	1.000
Perceived corruption, 2010	69	0.281	0.067	0.149	0.435
Population, 1977	73	1857.384	1378.133	258.000	7819.000
Population, 2000-2004	79	1.821	1.620	0.054	10.314
Population, 2000-2009	79	1.804	1.632	0.052	10.471
Population, 2001	79	1.835	1.614	0.056	10.192
Population, 2002	79	1.826	1.622	0.054	10.328
Population, 2009	79	1.780	1.636	0.049	10.536
Population, 2010	79	1.793	1.730	0.051	11.514
Real corruption, 2002	40	0.587	0.208	0.000	1.000
Real corruption, 2010	69	0.464	0.158	0.151	0.805
Real corruption, 2011	72	16.667	7.003	5.000	35.000
Retail trade per capita, 1976	73	0.892	0.220	0.480	1.871
Share of college graduates in labor force, 1979	79	165.975	23.938	126.000	253.000
Share of college graduates in the population, 1979	79	117.734	24.040	79.000	208.000
Share of college students, 1976/77	73	0.019	0.004	0.008	0.029
Share of CPSU members, 1976	71	0.063	0.014	0.039	0.127
Share of elderly population, 2000-2009	79	19.779	4.416	7.730	26.740
Share of elderly population, 2002	79	19.505	4.652	6.600	26.700
Share of elderly population, 2009	79	20.829	4.133	9.000	27.400
Share of employment: agriculture, 2009	79	12.006	5.437	0.300	26.500
Share of employment: construction, 2009	79	7.071	1.821	3.700	13.400
Share of employment: education, 2009	79	9.572	1.959	6.600	16.900
Share of employment: healthcare, 2009	79	7.511	1.461	5.300	17.200
Share of employment: hospitality, 2009	79	1.778	0.466	0.800	3.000
Share of employment: manufacturing, 2009	79	14.778	5.860	1.500	27.300
Share of employment: mining, 2009	79	1.749	2.743	0.000	14.500
Share of employment: other services, 2009	79	3.863	0.643	2.800	5.900
Share of employment: power utilities, 2009	79	3.229	1.253	1.200	10.500
Share of employment: services, 2009	79	6.116	2.243	2.200	16.700

Variable	No. obs.	Mean	St.dev.	Min	Max
Share of employment: trade, 2009	79	16.144	3.292	7.200	25.200
Share of employment: transportation, 2009	79	7.952	1.814	4.500	12.700
Share of evening school students, 1976/77	73	0.021	0.003	0.013	0.029
Share of extraction industries, 2005-2009	79	7.142	11.167	0.000	55.080
Share of extraction industries, 2009	79	7.085	11.852	0.000	55.700
Share of GDP: administration, 2009	79	8.627	4.185	2.400	23.800
Share of GDP: agriculture, 2009	79	8.815	5.691	0.000	31.000
Share of GDP: construction, 2009	79	7.734	3.463	3.000	19.500
Share of GDP: education, 2009	79	4.705	1.865	1.500	14.400
Share of GDP: financial services, 2009	79	0.157	0.329	0.000	1.900
Share of GDP: fishery, 2009	79	0.654	2.715	0.000	21.800
Share of GDP: healthcare, 2009	79	5.305	1.618	2.000	12.900
Share of GDP: hospitality, 2009	79	1.025	0.466	0.200	3.500
Share of GDP: manufacturing, 2009	79	16.686	9.163	0.400	42.800
Share of GDP: mining, 2009	79	7.085	11.852	0.000	55.700
Share of GDP: power utilities, 2009	79	5.152	2.764	1.400	16.400
Share of GDP: services, 2009	79	7.485	3.197	2.300	21.900
Share of GDP: trade, 2009	79	14.253	4.937	4.500	33.000
Share of GDP: transportation, 2009	79	10.986	4.263	4.300	24.300
Share of professional-technical schools students, 1976/77	73	0.006	0.002	0.001	0.013
Share of public enterprises, 2000-2004	79	0.160	0.063	0.022	0.389
Share of public enterprises, 2000-2009	79	0.155	0.067	0.018	0.411
Share of public enterprises, 2001	79	0.163	0.062	0.025	0.389
Share of public enterprises, 2002	79	0.161	0.063	0.022	0.394
Share of public enterprises, 2009	79	0.142	0.074	0.013	0.442
Share of public enterprises, 2010	79	0.139	0.071	0.011	0.431
Share of Russians, 2002 census	79	0.769	0.238	0.012	0.966
Share of Russians, 2010 census	79	0.777	0.248	0.008	0.973
Share of university graduates in labor force, 1979	79	88.570	28.361	63.000	254.000
Share of university graduates in the population, 1979	79	61.595	23.512	43.000	197.000
Share of university students, 1976/77	73	0.017	0.012	0.000	0.082
Share of urban population, 2000-2004	79	69.073	12.874	26.060	100.000
Share of urban population, 2000-2009	79	69.047	12.749	26.240	100.000
Share of urban population, 2001	79	69.143	12.895	26.500	100.000
Share of urban population, 2002	79	69.235	12.880	26.400	100.000
Share of urban population, 2009	79	69.010	12.700	26.600	100.000
Share of urban population, 2010	79	69.489	12.801	27.600	100.000
Share of urban population, 1977	73	65.274	13.398	39.000	100.000
Share of votes for CPRF, 1999	79	25.135	8.346	1.820	42.130
Share of votes for CPRF, 2011	79	0.199	0.059	0.030	0.326
Share of young population, 2000-2009	79	17.860	3.472	12.980	32.410
Share of young population, 2002	79	18.965	3.774	13.300	36.200
Share of young population, 2009	79	16.751	3.155	12.900	29.200
Soviet border	73	0.178	0.385	0.000	1.000
Territory, 1977	73	232.540	499.006	0.000	3103.200
Unemployment rate, 2000-2004	79	10.343	5.288	2.040	42.560
Unemployment rate, 2000-2009	79	9.467	5.704	1.710	48.970
Unemployment rate, 2001	79	10.659	5.020	2.100	34.900
Unemployment rate, 2002	79	9.454	5.356	1.400	44.000
Unemployment rate, 2009	79	9.747	5.676	2.700	52.900
Unemployment rate, 2010	79	8.766	5.441	1.700	49.700

Note on sources of data

1. The dataset includes almost all Russian regions, with minor exceptions, for which no corruption data for 2010 is available (Buriatia, Kabardino-Balkaria, Sakha, Ingushetia, Kalmykia, Tyva; in the robustness checks for other datasets, if data for these regions was present, the regions were included). We also exclude Chechnya and the autonomous okrugs due to the limited availability and reliability of most control variables, as it is standard in econometric analysis of Russian regions.

2. All variables for 2000-2010 are extracted from the official publications of Rosstat, with the exception of education and share of ethnic Russians in the regional population: these variables are extracted from the Census data (we use, depending on the time period for which the dependent variable was computed, data from one of two census waves: 2002 or 2010). The data from the Soviet period are extracted from the official publications of the Central Statistical Agency of the Russian Soviet Federal Socialist Republic for the 1970s and Rosstat for the 1980s; the data for educational structure of population and labor force are from the Soviet Census data.

3. Education level in the main regressions is captured by the share of population with university degree: we use this proxy since the primary and secondary schooling in Russia covers almost the entire population and there is less variation for this variable.

2. Robustness checks

To validate the main results of the paper, the following robustness checks have been implemented:

Timing of control variables: In the main specification we apply control variables from the year 2009, i.e. the latest year for which all control variables we use are available (thus, we regress the corruption variable on a one-year lag of all controls). In the robustness checks we, first, replace all control variables by the average values for 2000-2009, to account for the fact that 2009 values can be driven by coincidence and the corruption should be driven by rather long-term characteristics of the regional economies (Table A1); and second, replace all control variables by the variables for the year 2010 (i.e. the year when the corruption data was collected), if possible – some variables are not available for 2010 (Table A2). Note that for education and share of ethnic Russians this adjustment is not needed, since the data is not available on annual basis (only once a decade from the Census), and dummy republic and distance between the regional capital and Moscow do not change over time. The results are confirmed in all regressions.

Alternative corruption data: We replicate our results for the following alternative corruption measures:

Table A3: real corruption 2011: we use control variables for 2010, if possible. The results are confirmed in all regressions.

Tables A4 and A5: expert index of corruption 2000-2004; in this case we use the average values of control variables for 2000-2004 (with the exception of Census-based data, which we extract from the 2002 Census); we had had to replace the share of extraction industry in the GDP of the region by the ratio of the value of oil and gas extraction in the region (evaluated at average export prices) to GDP of the region, given the data availability; since the dependent variable is a count variable, we estimate regressions using not only OLS, but also ordered logit. The results are confirmed in all regressions.

Tables A6 and A7: real corruption 2002; unfortunately, the sample is in this case very small, and thus we were forced to add controls separately from each other to ensure that we have sufficient degrees of freedom; in addition, we did not control for dummy republic and ethnic structure, since the 2002 survey included only 4 ethnic republics (Karelia, Tatarstan, Bashkortostan and Udmurtia) – we will, however, replicate the regressions excluding these four regions in the next robustness check; as in case of the real corruption 2010, we replicate regressions using 2001 and 2002 control variables, if possible (i.e. with the exception of Census-based data, which are available only for 2002). The results are confirmed in all regressions.

Table A8: corruption perception indices for 2002 and 2010. For 2002 variable we entirely confirm our findings, which are, in fact, even stronger than for the real corruption indicator 2002 (and survive for additional control variables). For 2010 corruption perception index we cannot confirm our findings: the significant coefficient we observe in the table disappears if

we add any further control variables or exclude Bashkortostan. Since the index is poorly correlated with other indicators we have used, the absence of significant results is not surprising.

Alternative samples and log-odds transformation: Our main regressions were estimated only for regions, which had separate delegations during the CPSU congresses. The borders of most of the Russian regions were inherited from the Soviet period, so there are no difficulties with matching these datasets. There are, however, some exceptions. Therefore, we had to exclude the following regions: (1) Leningradska oblast and the City of St. Petersburg (which formed a single region – Leningradska oblast in the USSR); (2) autonomous oblast and regions, which became separate republics or full-fledged constituent units of Russia in 1990-1991 (Chukotka autonomous region, Evreyskaya autonomous oblast, Adygeya, Altai, Karachaevo-Cherkessia and Khakassia republics – in the Soviet period they were sub-divisions of other regions).

Thus, we replicate our results for the following additional samples (Table A8): (1) we add Leningradska oblast and St. Petersburg, assuming that each of them had the same share of the CPSU members in 1976 as the whole Leningradska oblast; (2) we add former autonomous oblast, assuming that they had the same share of CPSU members as the region they belonged to in the USSR. We understand that this assumption may be debatable (especially for sample (2)), and thus the results of these estimations should be treated with caution.

Furthermore, two additional samples were estimated to deal with outliers: (1) we excluded City of Moscow, which had an extremely large share of the CPSU members; (2) we excluded ethnic republics, which exhibited partly very different development trajectories than the rest of Russia (Table A8).

Finally, we estimated the regressions using the log-odds transformation of the dependent variable, since it is bounded between 0 and 1 (Table A9).

All modifications entirely confirm our results.

Additional control variables: In Table A9 we add a number of further control variables to account for alternative explanations of our results.

First, the impact of the CPSU members could be conditional on the demographic structure: we control for the share of elderly population of the region and the share of young population (elderly is defined as being older than 60 for male and 55 for female; young is defined as being younger than 16 years).

Second, the results could be driven not by the legacies of the CPSU membership, but by the contemporary influence of the Communist Party of the Russian Federation (CPRF), one of the strongest political forces in the country: we control for the share of CPRF at various federal parliamentary elections in the last decade and a dummy for the Red Belt regions, i.e. territories in the 1990s ruled by Communist governors. Specifically, we look at the elections of 1999 (the last competitive elections of the Yeltsin era before Putin's regime) and 2011 (the most recent Duma elections). Red Belt includes Bryansk, Ivanovo, Kamchatka, Krasnodar, Kursk, Orenburg, Ryazan, Stavropol, Vladimir, Volgograd and Tula.

Third, the effect we find could be spurious, if the CPSU membership was higher in the regions, which always receive higher attention of the center, in 1976 as well as in 2010. To capture the federal attention we control for the number of visits of the president of Russia to each region in 2008-2011.

Fourth, we control for the industrial structure of the region (captured by the GDP and employment structure).

Our results are, again, entirely confirmed.

Determinants of CPSU membership: The final problem we encounter is a possible omitted variable bias: the penetration of the CPSU membership in 1976 was not random, but could have been driven by region-specific characteristics, which, in turn, could have affected contemporary corruption. To capture these effects, we control for a broad set of variables from the Soviet statistics, which could have affected the spread of the CPSU membership (Tables A10 and A11).

First, we control for the territory, population and urbanization of the region in 1977, to capture the level of its development and attention of the central government.

Second, we also control for the earliest available (1985) data on monthly income per capita (regional income per capita was not reported in the Soviet statistics before that).

Third, we replace this variable by other proxies for development, which are available for the mid-1970s: per capita retail trade volume, per capita housing construction and per capita number of doctors. Unfortunately, data is not always available for 1976, hence we had to use other (proximate) years as possible substitutes.

Fourth, we control for demographic structure: natural population growth rate and infant mortality. Membership in the CPSU was typically permitted only from a certain age, hence, it is necessary to implement this robustness check.

Fifth, we control for the educational structure of the population (this is also a way to capture the social structure) using two datasets: the share of people with different educational degrees in the population and in the labor force according to the Census data and the share of students of different types of educational facilities in the regional population.

Sixths, we add a dummy variable for regions at the borders of the USSR, where military installations were located – it could have affected the number of Communists, since party membership was widespread among veterans and military personnel. We should also stress that regions populated by peoples repressed by Stalin, but re-created under Khrushchev (Ingushetiya, Kalmykia, Kabardino-Balkaria and Karachaevo-Cherkessia), are not in our sample due to data availability – the exceptions are the 2011 real corruption index and the 2000-2004 expert index of corruption, but if we re-estimate our regressions excluding or controlling for these regions, results do not change.

Sevenths, we add the earliest available data on total industrial production per capita and the number of crimes committed per capita.

We estimate two specifications: first, controlling for the contemporary variables (unemployment, income per capita, population and urbanization in 2009) (Table A10) and second, excluding these variables (Table A11). We use the second specification, first, to avoid the multicollinearity problems (current economic development can be a function of Soviet development as well, especially with variables basically measuring the same characteristics of the region in the 1970s and in the 2000s), and second, to avoid the problem of possibly endogenous controls (if contemporary corruption affects contemporary income etc.).

These additional specifications confirm our results.

Standardized coefficients: Figure A1 reports the standardized beta coefficients for specification (2) of Table 1 of the main paper: this is done to show the magnitude of the effect of the CPSU membership as opposed to other determinants of corruption.

Figure A1: Standardized beta coefficients, regression (2) Table 1

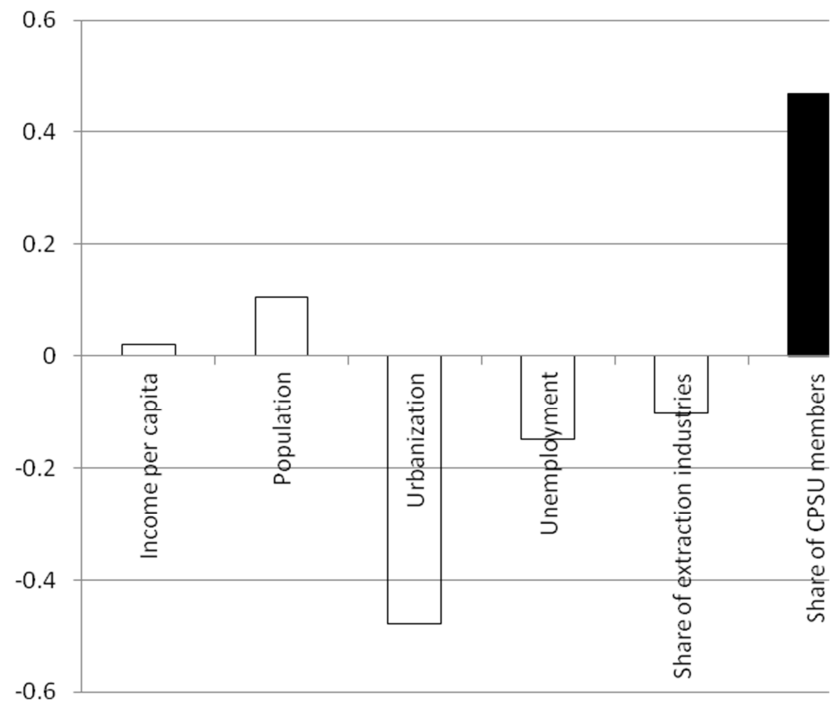


Table A1: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2010, OLS, control variables: average for 2000-2009

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income per capita, 2000-2009	-0.028* (0.014)	-0.03 (0.019)	-0.026 (0.018)	0.009 (0.020)	0.018 (0.028)	0.028 (0.029)	0.026 (0.030)	0.004 (0.029)	0.004 (0.030)	0.003 (0.030)
Population, 2000-2009	0.029** (0.012)	0.030** (0.013)	0.020 (0.014)	0.054*** (0.016)	0.050** (0.019)	0.050** (0.019)	0.049** (0.019)	0.039* (0.022)	0.036 (0.023)	0.039* (0.023)
Share of urban population, 2000-2009	-0.004 (0.002)	-0.004 (0.002)	-0.005* (0.003)	-0.006** (0.003)	-0.007** (0.003)	-0.006** (0.003)	-0.006** (0.003)	-0.007** (0.003)	-0.006** (0.003)	-0.007** (0.003)
Unemployment rate, 2000-2009	0.016* (0.008)	0.016* (0.009)	0.016* (0.009)	0.014 (0.009)	0.014 (0.009)	0.005 (0.011)	0.005 (0.011)	0.006 (0.010)	0.006 (0.010)	0.006 (0.010)
Share of natural resource extraction in GDP, 2000-2009		-0.000 (0.002)	-0.000 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.000 (0.002)	-0.001 (0.002)
Share of state-owned companies, 2000-2009			-0.571 (0.468)	-0.442 (0.432)	-0.404 (0.426)	-0.48 (0.440)	-0.457 (0.449)	-0.154 (0.360)	-0.099 (0.378)	-0.165 (0.371)
Number of companies in the region, 2000-2009				-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Number of public officials per capita, 2000-2009					-0.005 (0.008)	-0.010 (0.010)	-0.011 (0.010)	-0.009 (0.008)	-0.011 (0.009)	-0.009 (0.009)
Share of federal transfers in regional expenditures, 2000-2009						0.296 (0.257)	0.284 (0.263)	0.121 (0.217)	0.152 (0.223)	0.107 (0.243)
Distance from Moscow							0.003 (0.007)	0.002 (0.008)	0.001 (0.009)	0.002 (0.009)
Share of people with university degree, Census 2010								1.899*** (0.572)	2.034*** (0.609)	1.853*** (0.641)
Share of ethnic Russians in the population, Census 2010										-0.018 (0.103)
Dummy ethnic republic									-0.031 (0.040)	
Share of CPSU members, 1976	7.482*** (1.248)	7.583*** (1.520)	7.602*** (1.420)	9.399*** (1.477)	9.660*** (1.556)	9.194*** (1.599)	9.272*** (1.627)	7.680*** (1.655)	7.225*** (1.901)	7.784*** (1.832)
Constant	0.150 (0.215)	0.142 (0.241)	0.366 (0.298)	0.188 (0.271)	0.203 (0.276)	0.251 (0.277)	0.267 (0.284)	-0.024 (0.297)	-0.028 (0.298)	-0.003 (0.323)
Observations	65	65	65	65	65	65	65	65	65	65
R-squared	0.387	0.387	0.407	0.459	0.461	0.477	0.478	0.564	0.567	0.565

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses. Income per capita computed in 2000 price level using region-level CPI

Table A2: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2010, OLS, control variables: 2010, if possible

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income per capita, 2010	0.001 (0.004)	0.004 (0.004)	0.004 (0.004)	0.011*** (0.004)	0.014*** (0.005)	0.013** (0.005)	0.013** (0.005)	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)
Population, 2010	0.011 (0.012)	0.008 (0.011)	0.002 (0.013)	0.052*** (0.017)	0.043** (0.019)	0.043** (0.018)	0.043** (0.018)	0.035* (0.021)	0.032 (0.021)	0.035 (0.021)
Share of urban population, 2010	-0.009*** (0.002)	-0.009*** (0.002)	-0.010*** (0.003)	-0.009*** (0.002)	-0.009*** (0.002)	-0.008*** (0.002)	-0.008*** (0.003)	-0.008*** (0.003)	-0.008*** (0.003)	-0.008*** (0.003)
Unemployment rate, 2010	-0.004 (0.013)	-0.005 (0.013)	-0.005 (0.013)	-0.002 (0.012)	-0.002 (0.011)	-0.011 (0.011)	-0.011 (0.011)	-0.004 (0.010)	-0.003 (0.010)	-0.004 (0.010)
Share of natural resource extraction in GDP, 2009		-0.002 (0.002)	-0.002 (0.002)	-0.003* (0.001)	-0.003** (0.001)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Share of state-owned companies, 2010			-0.357 (0.402)	-0.235 (0.355)	-0.137 (0.364)	-0.202 (0.336)	-0.2 (0.343)	-0.003 (0.331)	0.081 (0.347)	-0.015 (0.348)
Number of companies in the region, 2010				-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Number of public officials per capita, 2010					-0.006 (0.005)	-0.009 (0.005)	-0.009* (0.005)	-0.008 (0.005)	-0.009* (0.005)	-0.008 (0.005)
Share of federal transfers in regional expenditures, 2009						0.306* (0.169)	0.304 (0.185)	0.127 (0.164)	0.142 (0.167)	0.122 (0.188)
Distance from Moscow							0.000 (0.008)	0.000 (0.008)	-0.001 (0.009)	0.001 (0.009)
Share of people with university degree, Census 2010								1.618** (0.648)	1.793** (0.708)	1.585** (0.713)
Share of ethnic Russians in the population, Census 2010										-0.012 (0.118)
Dummy ethnic republic									-0.036 (0.045)	
Share of CPSU members, 1976	6.276*** (1.681)	5.677*** (1.841)	5.857*** (1.769)	8.342*** (1.678)	8.545*** (1.756)	7.794*** (1.606)	7.804*** (1.609)	7.047*** (1.657)	6.537*** (1.948)	7.123*** (1.879)
Constant	0.673*** (0.202)	0.697*** (0.207)	0.818*** (0.240)	0.449** (0.206)	0.449** (0.203)	0.426** (0.203)	0.427** (0.204)	0.160 (0.249)	0.141 (0.251)	0.176 (0.301)
Observations	65	65	65	65	65	65	65	65	65	65
R-squared	0.37	0.378	0.386	0.489	0.497	0.535	0.535	0.589	0.593	0.589

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

Table A3: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption, 2011, OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income per capita, 2010	0.351* (0.196)	0.524** (0.236)	0.543** (0.235)	0.805*** (0.198)	0.560** (0.228)	0.520** (0.234)	0.470* (0.262)	0.246 (0.246)	0.242 (0.249)	0.213 (0.256)
Population, 2010	0.254 (0.603)	-0.004 (0.637)	-0.148 (0.621)	1.786** (0.741)	2.436*** (0.871)	2.460*** (0.877)	2.426*** (0.875)	2.075** (0.988)	2.165** (1.040)	2.137** (0.992)
Share of urban population, 2010	-0.363*** (0.097)	-0.363*** (0.094)	-0.395*** (0.122)	-0.385*** (0.111)	-0.408*** (0.105)	-0.350*** (0.108)	-0.350*** (0.108)	-0.363*** (0.102)	-0.363*** (0.104)	-0.350*** (0.106)
Unemployment rate, 2010	0.846* (0.433)	0.791* (0.419)	0.789* (0.418)	0.944** (0.433)	1.000** (0.447)	0.656 (0.496)	0.636 (0.496)	0.920* (0.472)	0.872* (0.475)	0.804* (0.471)
Share of natural resource extraction in GDP, 2009		-0.114* (0.058)	-0.117** (0.059)	-0.158*** (0.056)	-0.144*** (0.054)	-0.107* (0.058)	-0.109* (0.057)	-0.089 (0.062)	-0.095 (0.064)	-0.104 (0.066)
Share of state-owned companies, 2010			-9.51 (15.776)	-4.984 (15.189)	-12.18 (15.404)	-14.685 (16.194)	-12.847 (16.438)	-2.604 (16.669)	-5.175 (17.668)	-7.069 (17.639)
Number of companies in the region, 2010				-0.036*** (0.009)	-0.032*** (0.009)	-0.031*** (0.010)	-0.030*** (0.010)	-0.035*** (0.012)	-0.036*** (0.012)	-0.035*** (0.012)
Number of public officials per capita, 2010					0.414 (0.264)	0.295 (0.249)	0.247 (0.259)	0.305 (0.223)	0.328 (0.226)	0.362 (0.216)
Share of federal transfers in regional expenditures, 2009						11.767 (7.316)	10.187 (8.357)	1.612 (7.484)	1.209 (7.584)	-0.309 (8.157)
Distance from Moscow							0.227 (0.275)	0.233 (0.270)	0.284 (0.301)	0.335 (0.314)
Share of people with university degree, Census 2010								78.661** (30.268)	72.900** (33.739)	65.881* (34.236)
Share of ethnic Russians in the population, Census 2010										-4.195 (5.386)
Dummy ethnic republic									1.111 (2.193)	
Share of CPSU members, 1976	278.252*** (67.675)	233.497*** (68.262)	237.969*** (68.520)	337.308*** (70.358)	323.302*** (71.905)	294.492*** (79.509)	302.375*** (79.284)	260.662*** (85.188)	276.234*** (96.818)	287.208*** (96.551)
Constant	12.044 (8.356)	13.797* (8.096)	17.026 (11.210)	2.59 (11.077)	2.592 (10.942)	1.704 (11.239)	2.531 (11.451)	-10.686 (12.910)	-10.065 (13.086)	-5.100 (14.595)
Observations	66	66	66	66	66	66	66	66	66	66
R-squared	0.324	0.346	0.349	0.431	0.453	0.482	0.485	0.555	0.557	0.561

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

Table A4: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: expert index of corruption, 2000-2004, OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income per capita, 2000-2004	0.003 (0.064)	0.003 (0.080)	-0.008 (0.087)	0.126 (0.098)	0.169 (0.109)	0.174* (0.102)	0.078 (0.117)	0.063 (0.121)	0.055 (0.124)	0.045 (0.127)
Population, 2000-2004	0.115** (0.053)	0.115** (0.054)	0.136** (0.068)	0.273** (0.122)	0.257** (0.126)	0.276** (0.127)	0.268** (0.124)	0.271** (0.134)	0.276** (0.131)	0.268** (0.132)
Share of urban population, 2000-2004	-0.011 (0.009)	-0.011 (0.009)	-0.007 (0.011)	-0.013 (0.011)	-0.016 (0.011)	-0.012 (0.011)	-0.012 (0.011)	-0.011 (0.012)	-0.011 (0.012)	-0.011 (0.011)
Unemployment rate, 2000-2004	0.067** (0.027)	0.067** (0.028)	0.072** (0.027)	0.080*** (0.027)	0.079*** (0.028)	0.047 (0.032)	0.047 (0.031)	0.046 (0.031)	0.045 (0.032)	0.036 (0.039)
Value of oil and gas extraction to GDP, 2000-2004		-0.006 (1.263)	0.263 (1.403)	-0.675 (1.224)	-0.843 (1.276)	0.31 (1.331)	1.068 (1.465)	1.095 (1.462)	1.204 (1.416)	0.817 (1.499)
Share of state-owned companies, 2000-2004			1.254 (1.757)	1.415 (1.852)	1.568 (1.979)	0.345 (2.218)	0.755 (2.313)	1.362 (2.383)	1.168 (2.481)	0.957 (2.365)
Number of companies in the region, 2000-2004				-0.003* (0.002)	-0.004* (0.002)	-0.004* (0.002)	-0.003 (0.002)	-0.004 (0.002)	-0.004 (0.002)	-0.003 (0.002)
Number of public officials per capita, 2000-2004					-0.021 (0.036)	-0.025 (0.032)	-0.028 (0.031)	-0.025 (0.032)	-0.026 (0.032)	-0.027 (0.032)
Share of federal transfers in regional expenditures, 2000-2004						1.551* (0.806)	1.214 (0.923)	1.169 (0.864)	1.116 (0.885)	0.867 (0.894)
Distance from Moscow							0.049 (0.036)	0.046 (0.037)	0.051 (0.036)	0.059 (0.038)
Share of people with university degree, Census 2002								3.264 (5.227)	2.597 (5.266)	1.337 (4.954)
Share of ethnic Russians in the population, Census 2002										-0.648 (0.719)
Dummy ethnic republic									0.106 (0.287)	
Share of CPSU members, 1976	17.997** (7.224)	17.990** (8.081)	18.609** (8.299)	27.530** (11.097)	29.956*** (10.859)	25.810** (11.746)	27.736** (12.116)	25.523* (12.972)	27.647** (11.443)	30.811*** (11.217)
Constant	1.956** (0.913)	1.957** (0.975)	1.39 (1.298)	0.753 (1.483)	0.885 (1.564)	1.005 (1.629)	1.046 (1.595)	0.533 (1.836)	0.53 (1.852)	1.307 (2.281)
Observations	71	71	71	71	71	71	71	71	71	71
R-squared	0.275	0.275	0.280	0.312	0.320	0.359	0.374	0.381	0.383	0.397

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses. Income per capita computed in 2000 price level using region-level CPI. Value of oil and gas extraction to GDP obtained in the following way: ((Total extraction of oil * Average export price of oil, USD) + (Total extraction of gas * Average export price of gas, USD)) / (GDP). Value of resource extraction in millions of USD, GDP in thousands of USD; export price reported by the Russian Central Bank

Table A5: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: expert index of corruption, 2000-2004, ordered logit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income per capita, 2000-2004	0.028 (0.225)	0.066 (0.272)	0.032 (0.290)	0.432 (0.344)	0.572 (0.372)	0.622* (0.366)	0.364 (0.414)	0.3 (0.430)	0.227 (0.448)	0.15 (0.481)
Population, 2000-2004	0.419** (0.204)	0.415** (0.205)	0.481* (0.250)	0.909* (0.465)	0.851* (0.474)	0.967* (0.521)	0.971* (0.526)	0.994 (0.613)	1.025* (0.577)	0.942* (0.523)
Share of urban population, 2000-2004	-0.041 (0.033)	-0.042 (0.033)	-0.032 (0.037)	-0.052 (0.039)	-0.059 (0.040)	-0.043 (0.044)	-0.046 (0.045)	-0.041 (0.046)	-0.04 (0.045)	-0.041 (0.045)
Unemployment rate, 2000-2004	0.245** (0.119)	0.243** (0.118)	0.260** (0.112)	0.283*** (0.105)	0.284** (0.110)	0.162 (0.114)	0.163 (0.108)	0.156 (0.111)	0.144 (0.117)	0.088 (0.135)
Value of oil and gas extraction to GDP, 2000-2004		-1.882 (3.756)	-1.086 (4.130)	-3.733 (4.071)	-4.275 (4.207)	0.478 (4.461)	2.708 (4.934)	2.973 (4.900)	3.831 (4.794)	0.995 (5.231)
Share of state-owned companies, 2000-2004			3.560 (5.894)	4.146 (6.405)	4.664 (7.070)	0.116 (9.108)	1.399 (9.542)	4.037 (9.870)	1.782 (9.381)	1.086 (8.339)
Number of companies in the region, 2000-2004				-0.01 (0.007)	-0.012* (0.007)	-0.013 (0.008)	-0.011 (0.008)	-0.013 (0.010)	-0.013 (0.009)	-0.012 (0.009)
Number of public officials per capita, 2000-2004					-0.077 (0.143)	-0.103 (0.104)	-0.110 (0.099)	-0.102 (0.103)	-0.107 (0.099)	-0.119 (0.094)
Share of federal transfers in regional expenditures, 2000-2004						6.678** (3.045)	5.702* (3.398)	5.859* (3.374)	5.489 (3.455)	4.538 (3.474)
Distance from Moscow							0.142 (0.122)	0.119 (0.129)	0.165 (0.135)	0.209 (0.142)
Share of people with university degree, Census 2002								14.589 (24.596)	8.279 (23.677)	3.852 (21.252)
Share of ethnic Russians in the population, Census 2002										-4.647* (2.667)
Dummy ethnic republic									1.043 (0.969)	
Share of CPSU members, 1976	61.846** (24.914)	59.617** (26.852)	62.053** (27.136)	90.785** (37.931)	97.661*** (36.377)	85.544** (42.629)	93.750** (45.213)	84.175* (49.416)	102.661** (45.930)	116.865*** (43.023)
Observations	71	71	71	71	71	71	71	71	71	71

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses.

Table A6: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2002, OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income per capita, 2001	-0.109*** (0.023)	-0.115*** (0.041)	-0.109*** (0.024)	-0.102*** (0.035)	-0.146*** (0.034)	-0.110*** (0.024)	-0.111*** (0.024)	-0.119*** (0.027)
Population, 2001	0.117*** (0.025)	0.118*** (0.026)	0.115*** (0.036)	0.123*** (0.029)	0.179*** (0.046)	0.115*** (0.028)	0.118*** (0.024)	0.108*** (0.031)
Share of urban population, 2001	0.007 (0.006)	0.007 (0.006)	0.006 (0.005)	0.006 (0.006)	0.009 (0.006)	0.006 (0.005)	0.006 (0.005)	0.006 (0.006)
Unemployment rate, 2001	0.038* (0.019)	0.038* (0.020)	0.038* (0.020)	0.038* (0.020)	0.033 (0.020)	0.040* (0.023)	0.035* (0.020)	0.038* (0.020)
Value of oil and gas extraction to GDP, 2001		0.171 (0.721)						
Share of state-owned companies, 2001			-0.107 (1.037)					
Number of companies in the region, 2001				0.000 (0.001)				
Number of public officials per capita, 2001					0.076 (0.055)			
Share of federal transfers in regional expenditures, 2001						-0.119 (0.485)		
Distance from Moscow							0.007 (0.026)	
Share of people with university degree, Census 2002								1.234 (2.050)
Share of CPSU members, 1976	7.287** (2.734)	7.603** (3.597)	7.299** (2.809)	7.866* (4.248)	6.937** (2.906)	7.783** (3.590)	7.441** (2.857)	6.142* (3.320)
Constant	-0.868 (0.537)	-0.895 (0.559)	-0.838 (0.506)	-0.908 (0.581)	-1.628** (0.796)	-0.836 (0.521)	-0.829 (0.524)	-0.943 (0.611)
Observations	38	38	38	38	38	38	38	38
R-squared	0.467	0.467	0.467	0.467	0.498	0.468	0.469	0.474

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses.

Table A7: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2002, OLS, control variables: 2002

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Income per capita, 2002	-0.094*** (0.024)	-0.099** (0.042)	-0.094*** (0.025)	-0.074* (0.036)	-0.124*** (0.029)	-0.093*** (0.026)	-0.096*** (0.024)	-0.102*** (0.026)
Population, 2002	0.115*** (0.027)	0.117*** (0.032)	0.115*** (0.037)	0.136*** (0.026)	0.168*** (0.037)	0.120*** (0.027)	0.117*** (0.024)	0.107*** (0.036)
Share of urban population, 2002	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)	0.005 (0.005)	0.008 (0.006)	0.009 (0.006)	0.005 (0.005)	0.005 (0.005)
Unemployment rate, 2002	0.038 (0.024)	0.039 (0.025)	0.038 (0.025)	0.041 (0.024)	0.039 (0.026)	0.033 (0.026)	0.034 (0.030)	0.036 (0.026)
Value of oil and gas extraction to GDP, 2002		0.181 (0.948)						
Share of state-owned companies, 2002			-0.019 (1.000)					
Number of companies in the region, 2002				-0.001 (0.001)				
Number of public officials per capita, 2002					0.054 (0.037)			
Share of federal transfers in regional expenditures, 2002						0.327 (0.446)		
Distance from Moscow							0.009 (0.032)	
Share of people with university degree, Census 2002								0.994 (2.136)
Share of CPSU members, 1976	8.258** (3.052)	8.593** (4.125)	8.256** (3.072)	10.432** (4.638)	8.149** (3.128)	7.039* (3.689)	8.335** (3.158)	7.213* (3.794)
Constant	-0.78 (0.521)	-0.813 (0.585)	-0.773 (0.516)	-0.983 (0.589)	-1.489* (0.759)	-0.966* (0.567)	-0.728 (0.546)	-0.805 (0.572)
Observations	38	38	38	38	38	38	38	38
R-squared	0.447	0.447	0.447	0.454	0.474	0.456	0.451	0.451

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

Table A8: Impact of CPSU membership in 1976 on sub-national variation of corruption, alternative samples and dependent variables, OLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Corruption index	Perception	Perception	Real	Real	Real	Real	Real	Real	Real	Real
Sample	2010	2002	2010	2002	2010	2002	2010	2002	2010	2002
Income per capita	0.000 (0.002)	-0.055*** (0.017)	0.005 (0.005)	-0.107*** (0.035)	-0.002 (0.005)	-0.111*** (0.021)	-0.003 (0.005)	-0.111*** (0.021)	-0.004 (0.005)	-0.113*** (0.022)
Population,	-0.003 (0.006)	0.030 (0.029)	0.033*** (0.011)	0.117*** (0.022)	0.017 (0.012)	0.119*** (0.024)	0.021 (0.013)	0.119*** (0.024)	0.014 (0.013)	0.132*** (0.023)
Share of urban population	-0.002 (0.001)	-0.002 (0.004)	-0.009*** (0.002)	0.007 (0.006)	-0.006** (0.003)	0.008 (0.005)	-0.006** (0.003)	0.008 (0.005)	-0.005** (0.002)	0.005 (0.005)
Unemployment rate	0.008* (0.005)	0.000 (0.014)	-0.006 (0.011)	0.038* (0.020)	-0.011 (0.011)	0.040** (0.019)	-0.010 (0.011)	0.040** (0.019)	-0.017 (0.013)	0.034 (0.022)
Share of CPSU members, 1976	-1.213* (0.663)	4.645** (2.227)	8.907*** (1.631)	7.437* (4.334)	5.278*** (1.693)	6.926*** (2.462)	4.999*** (1.647)	6.926*** (2.462)	5.271*** (1.680)	5.283* (2.724)
Constant	0.305*** (0.113)	0.534 (0.442)	0.436** (0.193)	-0.877 (0.579)	0.661*** (0.210)	-0.937* (0.509)	0.633*** (0.214)	-0.937* (0.509)	0.691*** (0.244)	-0.619 (0.548)
Observations	65	38	64	37	67	40	69	40	55	34
R-squared	0.148	0.18	0.424	0.434	0.308	0.487	0.28	0.487	0.345	0.492
Moscow City	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Leningradskaia oblast and St. Petersburg	No	No	No	No	Yes	Yes	Yes	Yes	No	No
Regions established after 1991	No	No	No	No	No	No	Yes	Yes	No	No
Ethnic republics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses. Regressions (6) and (8) coincide, since the TI sample of 2002 does not include any regions, which did not exist before 1991. Control variables for 2009 for 2010 corruption value and for 2001 for 2002 corruption value.

Table A9: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2010, OLS, additional control variables and log-odds

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log-odds corruption ratio	No	No	No	No	No	No	No	No	No	Yes
Income per capita, 2009	-0.006 (0.006)	-0.005 (0.007)	-0.003 (0.007)	0.005 (0.005)	0.002 (0.004)	-0.002 (0.005)	-0.001 (0.005)	-0.017** (0.007)	-0.005 (0.007)	-0.009 (0.021)
Population, 2009	0.015 (0.012)	0.017 (0.014)	0.011 (0.015)	0.027 (0.019)	0.011 (0.011)	0.013 (0.012)	0.013 (0.011)	0.014 (0.017)	0.008 (0.016)	0.064 (0.053)
Share of urban population, 2009	-0.006** (0.002)	-0.007*** (0.002)	-0.006** (0.002)	-0.009*** (0.002)	-0.004 (0.003)	-0.007*** (0.002)	-0.007*** (0.002)	-0.003 (0.005)	-0.000 (0.004)	-0.032*** (0.011)
Unemployment rate, 2009	-0.018 (0.012)	-0.014 (0.012)	-0.018 (0.012)	-0.006 (0.011)	-0.011 (0.011)	-0.01 (0.012)	-0.011 (0.011)	-0.019 (0.014)	-0.012 (0.013)	-0.045 (0.052)
Share of CPSU members, 1976	7.347*** (1.775)	6.828*** (1.858)	6.986*** (1.888)	8.382*** (1.992)	5.359*** (1.780)	6.081*** (1.687)	5.629*** (1.688)	5.251** (2.111)	5.081** (2.045)	25.722*** (7.265)
Share of young population, %, 2009	0.021 (0.014)		0.035 (0.023)							
Share of elderly population, %, 2009		-0.007 (0.009)	0.011 (0.014)							
Number of presidential visits, 2008-2011				0.020 (0.015)						
Share of votes for CPRF, 1999 Duma elections, %					0.009*** (0.002)					
Share of votes for CPRF, 2011 Duma elections, %						-0.001 (0.002)				
Red Belt dummy							0.062* (0.033)			
Industrial structure of employment, %, 2009										
Agriculture								-0.005 (0.021)		
Mining								-0.012 (0.019)		
Manufacturing								-0.021 (0.016)		
Power utilities								-0.002 (0.036)		
Construction								0.003 (0.019)		
Retail and whole-sale trade								-0.009 (0.018)		
Hospitality								0.111** (0.053)		
Transportation								-0.024 (0.022)		
Services								0.002 (0.031)		
Education								-0.021 (0.030)		
Healthcare								-0.022 (0.045)		
Other services								-0.025 (0.041)		

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Industrial structure of GDP, %, 2009										
Healthcare									0.116* (0.064)	
Education									0.123 (0.079)	
Administration									0.099 (0.063)	
Services									0.103* (0.061)	
Finance									0.131 (0.088)	
Transportation									0.092 (0.060)	
Hospitality									0.161* (0.088)	
Retail trade									0.109* (0.060)	
Construction									0.122** (0.060)	
Power utilities									0.108* (0.061)	
Manufacturing									0.100 (0.062)	
Agriculture									0.105* (0.062)	
Fishery									0.103* (0.058)	
Mining									0.102 (0.061)	
Constant	0.304 (0.316)	0.856*** (0.289)	-0.186 (0.685)	0.441** (0.203)	0.229 (0.228)	0.711*** (0.209)	0.692*** (0.203)	1.693 (1.923)	-10.131 (6.200)	0.860 (0.919)
Observations	65	65	65	63	65	65	65	65	65	65
R-squared	0.381	0.36	0.388	0.443	0.451	0.353	0.373	0.503	0.619	0.334

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
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Income per capita, 2009	-0.002	0.001	0.000	0.000	0.001	0.013	-0.003	0.001	0.001	-0.002	-0.001	0.001	0.001	0.002
	(0.005)	(0.005)	(0.005)	(0.006)	(0.008)	(0.008)	(0.007)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Population, 2009	0.013	-0.034	-0.023	-0.022	-0.025	-0.043	-0.051	0.026	-0.057	-0.067	-0.082	-0.02	-0.049	-0.045
	(0.012)	(0.061)	(0.062)	(0.063)	(0.062)	(0.054)	(0.064)	(0.062)	(0.054)	(0.056)	(0.055)	(0.059)	(0.061)	(0.053)
Share of urban population, 2009	-0.007***	-0.008***	-0.012***	-0.012***	-0.012***	-0.012**	-0.010**	-0.009**	-0.009**	-0.006	-0.005	-0.007	-0.008*	-0.008
	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Unemployment rate, 2009	-0.011	-0.011	-0.016	-0.016	-0.016	-0.013	-0.017	-0.023*	-0.012	-0.008	-0.006	-0.005	-0.013	-0.011
	(0.011)	(0.012)	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.012)	(0.012)
Share of CPSU members, 1976	5.904***	6.174***	6.078***	6.014***	6.045***	8.002***	5.052***	5.086***	8.488***	7.273***	7.176***	7.974***	8.206***	9.930***
	(1.664)	(1.603)	(1.605)	(1.583)	(1.624)	(1.617)	(1.885)	(1.537)	(1.700)	(1.725)	(1.783)	(1.597)	(1.835)	(1.980)
Territory, ‘000 sq. km, 1977	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Population, ‘000 people, 1977		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000*	0.000**	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Share of urban population, % 1977			0.004	0.003	0.003	0.005	0.001	0.003	0.001	-0.005	-0.005	0.001	0.001	0.000
			(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Border region of the USSR				0.010	0.013	0.028	0.009	0.016	-0.046	-0.126***	-0.106**	-0.075	-0.05	-0.048
				(0.057)	(0.058)	(0.054)	(0.057)	(0.058)	(0.050)	(0.044)	(0.044)	(0.053)	(0.051)	(0.050)
Income per capita, monthly, RUR, 1985					-0.202				-0.619	-2.469***	-1.903**	-0.191	-0.661	-0.719
					(1.003)				(0.916)	(0.886)	(0.820)	(1.104)	(0.940)	(0.855)
Retail trade per capita, 000 RUR, 1976						-0.463**								
						(0.219)								
Number of doctors per 10,000 people, 1976							0.005							
							(0.003)							
Housing construction, sq. km per capita, 1976								-0.867***						
								(0.289)						
Natural population growth rate, 1970								0.018**	0.018***	0.019***	0.022***	0.018**	0.020**	
								(0.007)	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)	
Infant mortality, per 1,000 children born alive, 1970								-0.008	-0.008**	-0.008**	-0.010**	-0.008	-0.008	
								(0.005)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Share of population with university degree, 1979										0.001				

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Share of population with college degree, 1979										(0.002)				
Share of labor force with university degree, 1979										0.006*** (0.002)				
Share of labor force with college degree, 1979											0.001 (0.001)			
Share of college students in the regional population, 1976/77											0.005*** (0.001)			
Share of university students in the regional population, 1976/77												8.555 (6.641)		
Share of professional-technical schools students in the regional population, 1976/77												-4.555** (1.974)		
Share of evening school students in the regional population, 1976/77												-18.330** (8.625)		
												-5.906 (6.350)		
Industrial production per capita, bln. RUR, 1985													-0.004 (0.008)	
Number of criminal convictions, 1985														0.000 (0.000)
Constant	0.704*** (0.207)	0.703*** (0.204)	0.814*** (0.237)	0.819*** (0.231)	0.829*** (0.245)	0.799*** (0.236)	0.826*** (0.233)	1.133*** (0.261)	0.704** (0.277)	0.473* (0.273)	0.144 (0.306)	0.637* (0.332)	0.659** (0.277)	0.596** (0.284)
Observations	65	65	65	65	65	65	65	65	65	65	65	65	65	65
R-squared	0.351	0.36	0.375	0.375	0.376	0.439	0.399	0.462	0.467	0.56	0.565	0.538	0.47	0.484

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

Table A11: Impact of CPSU membership in 1976 on sub-national variation of corruption, dep.var.: real corruption index, 2010, OLS, determinants of membership in the CPSU in the Soviet period, not controlling for contemporary covariates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Share of CPSU members, 1976	3.891*** (1.425)	3.648** (1.602)	5.182*** (1.480)	5.091*** (1.466)	5.458*** (1.482)	6.728*** (1.511)	4.302** (1.758)	5.734*** (1.171)	7.956*** (1.758)	7.481*** (1.441)	7.275*** (1.421)	7.570*** (1.508)	7.747*** (1.784)	10.336*** (1.880)
Territory, 1977	0.000 (0.000)	-0.000* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Population, 1977		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)
Share of urban population, 1977			-0.004** (0.002)	-0.004** (0.002)	-0.004* (0.002)	-0.002 (0.002)	-0.006*** (0.002)	-0.003** (0.002)	-0.004** (0.002)	-0.008*** (0.002)	-0.007*** (0.002)	-0.003* (0.002)	-0.003 (0.002)	-0.005** (0.002)
Border region of the USSR				0.039 (0.051)	0.048 (0.054)	0.056 (0.054)	0.032 (0.052)	0.028 (0.051)	-0.022 (0.049)	-0.102** (0.044)	-0.078* (0.041)	-0.061 (0.045)	-0.046 (0.050)	-0.036 (0.050)
Income per capita, 1985					-0.553 (0.743)				-1.013 (0.674)	-3.105*** (0.795)	-2.499*** (0.656)	-0.19 (0.760)	-0.883 (0.657)	-0.868 (0.661)
Retail trade, 1976						-0.265* (0.143)								
Number of doctors per capita, 1976							0.003 (0.004)							
Housing construction per capita, 1976									-0.759*** (0.230)					
Natural population growth coefficient, 1970									0.020*** (0.006)	0.020*** (0.005)	0.020*** (0.005)	0.025*** (0.006)	0.019*** (0.006)	0.022*** (0.007)
Infant mortality, 1970									-0.009* (0.005)	-0.010** (0.004)	-0.010** (0.004)	-0.010** (0.004)	-0.008* (0.005)	-0.009* (0.005)

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Share of population with university degree, 1979										-0.001 (0.001)				
Share of population with college degree, 1979										0.007*** (0.002)				
Share of labor force with university degree, 1979											0.000 (0.001)			
Share of labor force with college degree, 1979											0.005*** (0.001)			
Share of college students, 1976/77												12.330** (5.937)		
Share of university students, 1976/77												-5.520*** (1.701)		
Share of professional-technical schools students, 1976/77												-19.227** (8.700)		
Share of evening school students, 1976/77												-6.857 (6.473)		
Industrial production per capita, 1985													-0.010 (0.006)	
Number of criminal convictions, 1985														0.000** (0.000)
Constant	0.232** (0.101)	0.225* (0.117)	0.376*** (0.138)	0.395*** (0.141)	0.412*** (0.144)	0.381*** (0.125)	0.425*** (0.151)	0.600*** (0.158)	0.429** (0.192)	0.281* (0.167)	0.02 (0.178)	0.394* (0.210)	0.344* (0.189)	0.297* (0.157)
Observations	65	65	65	65	65	65	65	65	65	65	65	65	65	65
R-squared	0.181	0.192	0.273	0.28	0.286	0.328	0.297	0.379	0.406	0.522	0.526	0.516	0.43	0.447

Note: *** significant at 1% level, ** 5%, * 10%. Robust standard errors in parentheses

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